

SWBAT: make and measure standing waves

Jan 4-7:20 AM

Concept Sheet

~ 7 rows when we're done...

We'll fill in two terms (rows) today.

Concept	Meaning	Sym-bol	Units	Picture
FREQUENCY	HOW MANY PER UNIT OF TIME $\text{FREQ} = \frac{\#}{\text{TIME}}$	$f$ $f = \frac{1}{T}$	hertz $\text{Hz} = \frac{1}{\text{sec}}$	
PERIOD	HOW MUCH TIME FOR ONE. PERIOD = $\frac{\text{TIME}}{\#}$	$T$ $T = \frac{1}{f}$	seconds sec.	
TRANSVERSE	WHEN THE MEDIUM VIBRATES ACROSS THE DIRECTION THE WAVE TRAVELS.			
LONGITUDINAL	WHEN THE MEDIUM VIBRATES ALONG THE DIRECTION THE WAVE TRAVELS.			
AMPLITUDE	HOW FAR FROM THE MIDDLE.	$A$	meters m	
WAVELENGTH	HOW FAR FOR ONE "BACK & FORTH"	$\lambda$	meters m	
WAVE SPEED	$\frac{\text{DISTANCE OF A WAVE}}{\text{TIME OF A WAVE}}$	$v$	$\frac{\text{meters}}{\text{second}}$ m/s	

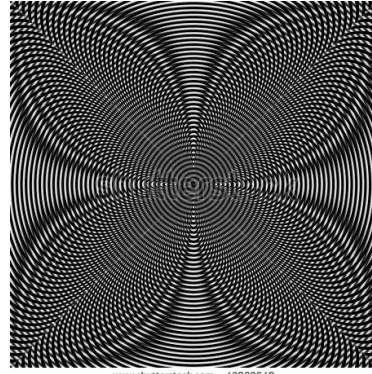
Feb 18-6:50 AM

# Welcome!!!

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SECA Physics  
Wednesday 20 April 2016

- \* Pick up:
  - blue concept sheet
  - slip of paper (for later)



## Opening Questions:

Where do we see waves run into each other in real life? **INTERFERENCE**

[http://www.youtube.com/watch?v=J\\_xd9hUZ2AY](http://www.youtube.com/watch?v=J_xd9hUZ2AY)

<http://www.youtube.com/watch?v=c3074eM5AeY>

<http://www.youtube.com/watch?v=k1HdUj6mAg>

**Centering**

Sep 7-7:04 AM

## Standing Waves:

= a wave that **appears** to stay in one place.

Caused by interference.

Points that remain still are called **NODES**.

**NO MOTION**

<https://www.youtube.com/watch?v=yngzeIYA7lw>

<https://www.youtube.com/watch?v=EhnbhOoPIBc>

<https://www.youtube.com/watch?v=gpCquUWqaYw>

**RUBEN'S TUBE:  
VISUAL REPRESENTATION  
OF SOUND WAVES**

Apr 21-7:45 AM

Try it...

What could we measure???

WAVELENGTH: RULER 2 BUMPS

$$\text{FREQ} : \frac{\#}{\text{TIME}} = \frac{10}{4.43\text{s}} = 2.25\text{Hz}$$

WAVESPEED: WAVELENGTH  $\times$  FREQ

Feb 5-7:41 AM

### Daily 3 Questions

- \* Every day except test/project days
- \* 3 Questions on the topics of the day
- \* Main source of daily points
- \* I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your **NAME!!!**

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1) A \_\_\_\_\_ is a wave that appears to stay still.

- ☒ A) Standing Wave
- ☐ B) Wavelength
- ☐ C) Moire Pattern

2) ~~The units for measuring Wave Speed are~~

- ~~A) seconds~~
- ~~B) meters~~
- ~~C) meters per second~~

WHAT DEVICE DID  
WE USE TO FIND  
FREQ?

STOP WATCH

3) The Ruebens tube (pipe with flames) provides a way to look at SOUND waves.

Apr 15-7:43 AM